

(FILE 'HOME' ENTERED AT 15:12:07 ON 13 MAR 2006)

FILE 'HCAPLUS' ENTERED AT 15:12:23 ON 13 MAR 2006

| | |
|----|--------------------------------|
| L1 | 0 S TETRABROMOPHTHALIC DIESTER |
| L2 | 0 S TETRABROMOPHTHALIC DIESTER |
| L3 | 0 S TETRABROMOPHTHALIC ESTER |
| L4 | 661 S TETRABROMOPHTHALIC? |
| L5 | 109 S L4 AND ESTER |
| L6 | 15 S L4 AND DIESTER |
| L7 | 10 S L6 AND PY<2003 |
| L8 | 2 S L7 AND HALF AND ESTER |

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L7 ANSWER 1 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1998:186421 HCAPLUS
DOCUMENT NUMBER: 128:231080
TITLE: Process for preparing dialkyl tetrahalophthalates for use as flame retardants or plasticizers for plastics
INVENTOR(S): Day, James F.; Good, James J.
PATENT ASSIGNEE(S): Unitex Chemical Corp., USA
SOURCE: U.S., 5 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|--------------|
| US 5728323 | A | 19980317 | US 1995-554262 | 19951106 <-- |
| PRIORITY APPLN. INFO.: | | | US 1995-554262 | 19951106 |

AB A tetrahalophthalic anhydride or acid is dissolved in excess C1-18 alkanols. Residual sulfuric acid, not completely removed in prior methods, is removed by treatment with magnesium acetate or multiple water washes for improving color of final products. The mass is esterified with a tetraalkyl titanate, and residual acidic components are removed by treatment with magnesium silicate. These treatments improve processability, production cycle time, product color, clarity and purity. Thus, a **tetrabromophthalic** anhydride (H2SO4 content 0.08-0.15%) was esterified in this manner to give a **diester** where 2-ethylhexanol and 2-ethylhexyl titanate were used as solvent and catalyst, resp.

REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 2 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1994:435026 HCAPLUS
DOCUMENT NUMBER: 121:35026
TITLE: Batch esterification process for producing tetrabromophthalate diesters
INVENTOR(S): Tarbit, Brian
PATENT ASSIGNEE(S): Great Lakes Chemical Europe Ltd., Switz.
SOURCE: PCT Int. Appl., 20 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--|------|----------|-----------------|--------------|
| WO 9410123 | A1 | 19940511 | WO 1993-EP3048 | 19931102 <-- |
| W: US | | | | |
| RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| US 5332859 | A | 19940726 | US 1992-970919 | 19921103 <-- |
| EP 667849 | A1 | 19950823 | EP 1993-924566 | 19931102 <-- |
| R: BE, DE, FR, GB, NL | | | | |
| PRIORITY APPLN. INFO.: | | | US 1992-970919 | A 19921103 |
| | | | WO 1993-EP3048 | W 19931102 |

AB Tetrabromophthalate **diester** flame retardants, having consistent product characteristics, are prepd by (a) reacting in a first batch at approx. 150° a C2-6 polyhydric alc. (e.g., diethylene glycol), an alkylene oxide (e.g., ethylene oxide, propylene oxide), and **tetrabromophthalic** anhydride in a mole ratio of 1.6-1.9:1.3-1.5:1, resp., in an organic solvent (e.g., PhMe, xylenes, C6H6, etc.), (b) recovering the organic solvent by distillation, (c) analyzing the recovered organic solvent to determine its alkylene oxide content, and (d) preparing a second batch by repeating step (a) using the recovered solvent to achieve the same mole ratio.

L7 ANSWER 3 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1994:219566 HCAPLUS
 DOCUMENT NUMBER: 120:219566
 TITLE: Halogen-containing aromatic diester flame retardants for organic polymers
 INVENTOR(S): Nishibori, Setsuo; Kondo, Hideto
 PATENT ASSIGNEE(S): Dai Ichi Kogyo Seiyaku Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

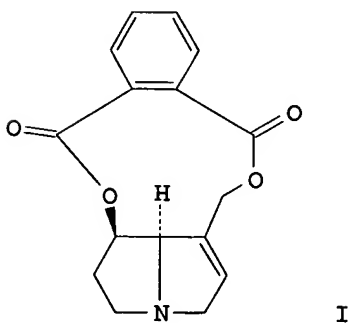
| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|-------------------|----------|-----------------|--------------|
| JP 05295163 | A2 | 19931109 | JP 1992-131723 | 19920423 <-- |
| PRIORITY APPLN. INFO.: | | | JP 1992-131723 | 19920423 |
| OTHER SOURCE(S): | MARPAT 120:219566 | | | |
| GI | | | | |

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Aromatic diesters I (A = II, III; X = Br, Cl, iodo; R1 = H, C1-9 alkyl, PhCHMe, R2 = H, C1-9 alkyl, PhCHMe; R3 = H, Me; h, i, j, l = 0-5 integer; k = 1-4 integer; m = 0-6 integer) are useful for flame retardants for organic polymers. Thus, 0.5 mol tetrabromophthalic anhydride was treated with 0.5 mol tribromophenol ethylene oxide adduct and 0.55 mol tribromophenol glycidyl ether in MePh to give a phthalic ester IV, 15 parts of which was mixed with 100 parts high impact polystyrene and 3 parts Sb2O3 to give a test piece, which showed UL-94 inflammability V-0 and good weather resistance.

L7 ANSWER 4 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1987:176707 HCAPLUS
 DOCUMENT NUMBER: 106:176707
 TITLE: Synthesis of macrocyclic pyrrolizidine alkaloid analogs from (-)-(7R,8R)-1-(chloromethyl)-1,2-didehydro-7-hydroxypyrrolizidinium chloride
 AUTHOR(S): Burton, Michael; Robins, David J.
 CORPORATE SOURCE: Dep. Chem., Univ. Glasgow, Glasgow, G12 8QQ, UK
 SOURCE: Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1972-1999) (1986), (4), 585-9
 CODEN: JCPRB4; ISSN: 0300-922X
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 106:176707
 GI



AB Treatment of the (-)-hydrochloride of (7R,8R)-1-chloromethyl-1,2-didehydro-7-hydroxypyrrolizidine with a series of aromatic and unsatd. anhydrides at

room temperature gave the corresponding macrocyclic diesters of retronecine. The reaction probably takes place by initial formation of the 7-monoesters of the allylic chloride, followed by intramol. nucleophilic substitution of the chlorine by carboxylate anion. A range of ten-membered, e.g. I, macrocyclic diesters of retronecine and one example each of an 11-membered and 12-membered pyrrolizidine alkaloid analog, were prepared

L7 ANSWER 5 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1983:178972 HCAPLUS
DOCUMENT NUMBER: 98:178972
TITLE: Allylic esters of **tetrabromophthalic acid**
INVENTOR(S): Finley, Joseph H.
PATENT ASSIGNEE(S): FMC Corp., USA
SOURCE: U.S., 6 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|--------------|
| US 4375551 | A | 19830301 | US 1981-303644 | 19810918 <-- |
| EP 75289 | A1 | 19830330 | EP 1982-108591 | 19820917 <-- |
| EP 75289 | B1 | 19850102 | | |
| R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE | | | | |
| JP 58069837 | A2 | 19830426 | JP 1982-161116 | 19820917 <-- |
| JP 60024093 | B4 | 19850611 | | |
| AU 8288489 | A1 | 19830505 | AU 1982-88489 | 19820917 <-- |
| AU 532219 | B2 | 19830922 | | |
| ZA 8206862 | A | 19830727 | ZA 1982-6862 | 19820917 <-- |
| ES 515777 | A1 | 19831101 | ES 1982-515777 | 19820917 <-- |
| AT 11038 | E | 19850115 | AT 1982-108591 | 19820917 <-- |
| CA 1197260 | A1 | 19851126 | CA 1982-416147 | 19821123 <-- |
| IL 67449 | A1 | 19851129 | IL 1982-67449 | 19821210 <-- |
| PRIORITY APPLN. INFO.: | | | US 1981-303644 | A 19810918 |
| | | | EP 1982-108591 | A 19820917 |

OTHER SOURCE(S): MARPAT 98:178972

AB Allylic esters of **tetrabromophthalic acid** are formed using allylic alcs. both as reactant and solvent. In the 1st step, the alc. and a base are reacted with **tetrabromophthalic anhydride** to form the half-ester Na salt. In the 2nd step, the half-ester Na salt is reacted with an allylic halide to form the **diester**, which crystallizes from solution. The excess solvent can be treated to recover the raw materials or recycled.

L7 ANSWER 6 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1979:122565 HCAPLUS
DOCUMENT NUMBER: 90:122565
TITLE: Polymeric flame-retardant thermoplastic resins
INVENTOR(S): Arthur, Ralph P.; Turner, Roy M.
PATENT ASSIGNEE(S): Borg-Warner Corp., USA
SOURCE: U.S., 3 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|--------------|
| US 4132748 | A | 19790102 | US 1977-790634 | 19770425 <-- |
| PRIORITY APPLN. INFO.: | | | US 1977-790634 | A 19770425 |

AB Flame-retardant thermoplastic resins were prepared using poly(ethylene tetrabromophthalate) (I) [31546-33-5] and Sb2O3. Thus, 2320 g **tetrabromophthalic anhydride** was added to 930 g ethylene glycol at 155°C, stirred 8 h at 165°C and worked up to give the **diester** [15286-81-4] m. 35-50°C. The **diester** (500 g) was heated to 145°C with 2 g Sb2O3 and 0.35 g

tris(nonylphenyl) phosphite, and the pressure was adjusted to 20 mm and condensation to I continued 10 h at 185°C. ABS polymer [9003-56-9] 100, Sb2O3 7.5 and I 25 parts were mixed 3 min at 320°F and compression-molded at 300°F to give test specimens with oxygen index 31.5, UL-94 rating V-O and falling dart impact 4-6 ft-lbs, compared to 28.5, V-O and 2-4, resp., for a composition containing 22 parts 1,2-bis(tribromophenoxy)ethane in place of I.

L7 ANSWER 7 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1975:565070 HCAPLUS
DOCUMENT NUMBER: 83:165070
TITLE: Thermoplastic ingredient for molding compounds
INVENTOR(S): Roberts, Michael G.; Matuszak, Michael L.
PATENT ASSIGNEE(S): Owens-Corning Fiberglas Corp., USA
SOURCE: U.S., 6 pp. Division of U. S. 3,843,750.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|--------------|
| US 3891596 | A | 19750624 | US 1974-484641 | 19740701 <-- |
| US 3843750 | A | 19741022 | US 1973-361663 | 19730518 <-- |
| PRIORITY APPLN. INFO.: | | | US 1973-361663 | A3 19730518 |

GI For diagram(s), see printed CA Issue.

AB Thermoplastic polymers derived in part from a monounsaturated diester of a halogenated dicarboxylic acid is added to a filled unsaturated polyester resin to reduce mold shrinkage and improve the fire resistance. Thus, tetrabromophthalic anhydride [632-79-1] was esterified with BuOH [71-36-3] in the presence of p-MeC6H4SO3H and the product esterified with 2-hydroxyethyl acrylate [818-61-1] in the presence of p-MeOC6H4OH to give 2-(acryloyloxy)ethyl butyl tetrabromophthalate (I) [54291-93-9]. I was copolymerized with styrene and acrylic acid to give a thermoplastic polymer [54301-79-0], a styrene solution of which was mixed with a styrene solution of poly(propylene maleate phthalate) [25266-46-0], peroxide catalysts, Zn stearate, CaCO3, clay, and chalked glass fibers, and the premix was molded for 3 min at 280-300°F and 2000 psi to give a sample with better fire resistance than a control containing polystyrene as thermoplastic polymer and a sep. fire retardant.

L7 ANSWER 8 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1969:97634 HCAPLUS
DOCUMENT NUMBER: 70:97634
TITLE: Heat-hardenable liquid resin composition from a copolymer of a vinyl compound and a carboxylic acid
PATENT ASSIGNEE(S): Dow Chemical Co.
SOURCE: Fr., 5 pp.
CODEN: FRXXAK
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|----------|-----------------|--------------|
| FR 1517845 | | 19680322 | FR | 19661228 <-- |

AB A composition containing a vinyl- α,β -unsaturated carboxylic acid or anhydride interpolymer dissolved in a vinyl monomer with a small amount of α,β -unsaturated acid monomer, a crosslinking agent, and a free-radical catalyst is used in the preparation of laminates which are cured at high temps. The composition is liquid at room temperature and cures without shrinking. Thus, 100 parts of a 10% solution containing 62.4% styrene (I), 2.9% maleic anhydride (II), and 34.7% of a 9:1 I-II interpolymer in MeCOEt with a viscosity of 1.5 cp. at 25° was mixed with 3.76 parts propylene glycol, 1 part Bz2O2, and 0.2 part Co naphthenate. The solution was applied to 12 sheets of glass cloth, which were kept at room temperature for 24 hrs. and then laminated by heating at 130° for 1 hr. at 3.8 kg./cm.2

pressure. The laminate was held at 130° for 24 hrs. to give a 3.2-cm. sheet with 3780 kg./cm.2 flexural resistance at room temperature, which decreased to 3430 kg./cm.2 at 71°. Other similar compns. were prepared containing the crosslinking agents 1,5-pentanediol, polyethylene glycol, hydroxypropylglycerol, trans-2,3-dibromo-2-butene-1,4-diol, glycerol, a I-allyl alc. copolymer, **tetrabromophthalic anhydride-ethylene glycol diester**, propylene oxide-bisphenol A polyether, bisphenol A diglycidyl ether, bromobisphenol A diglycidyl ether, an epoxidized novolak resin, epoxidized polybutadiene, styrene oxide, methylene-4,4'-dianiline, and monoethanolamine, vinyl cyanide, vinyl acetate, Et acrylate, Me methacrylate, p-chlorostyrene, α -methylstyrene, and mixts. of I with diallyl phthalate, hydroxyethyl acrylate, ethylene dimethacrylate, and trimethylolpropane diallyl ether, itaconic acid, acrylic acid, II ethyl semi-ester, the addition product of diethanolamine and II, and I- α -methylstyrene-II, Me vinyl ether-II, I-butadiene-isotridecanoic acid maleate, monochlorostyrene-II, and vinyl chloride-vinyl acetate-II interpolymers.

L7 ANSWER 9 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1969:78704 HCAPLUS

DOCUMENT NUMBER: 70:78704

TITLE: **Tetrabromophthalic anhydride in flame-retardant polyurethane foams**

AUTHOR(S): Pape, Peter G.; Sanger, Joseph E.; Nametz, Richard C.

CORPORATE SOURCE: Michigan Chem. Corp., St. Louis, MI, USA

SOURCE: Annu. Tech. Conf., Soc. Plast. Eng., Tech. Pap., 26th (1968), 695-8. Soc. of Plast. Eng., Inc.: Greenwich, Conn.
CODEN: 20UHAJ

DOCUMENT TYPE: Conference

LANGUAGE: English

AB **Tetrabromophthalic anhydride (I)** was treated with a 5% molar excess of an alc. containing ≥ 2 OH groups at $\leq 130^\circ$ in the presence of an alkali metal or alkaline earth salt or alkylammonium salt, giving a hydroxyalkyl half-ester of **tetrabromophthalic acid**. Propylene oxide (II) was then added at $115-30^\circ$ until the acid number of the product was < 1 , giving the 2-hydroxypropyl hydroxyalkyl **diester**. Alcs. used were glycerol, ethylene glycol, dipropylene glycol, 2-methyl-2,4-pentanediol, 1,2,6-hexanetriol, sorbitol-based hexol (Niax LS-650) (III), a long-chain triol (Poly-G 3030 PG), and diethylene glycol (IV). The products were often highly viscous. IV gave the **diester** with the lowest viscosity, and also provided the most fluidity during the initial stages of the reaction. Polyurethane foams were prepared by mixing polyols, a **diester**, and 16% of a blowing agent (Refrigerant 11), adding 1.05 equivalent of a polyisocyanate (Mondur MR), 1% surfactant (DC-199), and 0.3% amine catalyst (C-16), stirring for 15 sec. with a high-speed paint stirrer, and pouring the mixture into a shoe box for foaming. Cream times of 20 sec., a rise time of 180 sec., and tack-free times of 270 min. were generally observed. Foams with excellent cell structure and smooth skins were formed. The polyol mixture contained the **diester** (V) from I, II, and IV, polypropylene glycol triol (PPG-400) (VI), an amine-based polyol (Quadrol) (VII), and a sorbitol-based polyol (G-2406) (VIII). Flammability was determined according to ASTM D 1692 on foams aged at least 24 hrs. before testing. The results are shown in a table. The I-II-III-**diester** was also used as a flame retardant in rigid foams containing a sorbitol-based polyol (G-2406), a tin catalyst (T-12), and an amine catalyst (Thancat DME). The use of an amine-based polyol (Tanol R-350-X) with inherent catalytic and flame-retardant activity gave excellent results. Foam prepared with the later polyol had good dimensional stability of +8 to +10% volume change after 7 days at 100% relative humidity and 70°. V had a good synergistic flame-retardant effect when used in conjunction with Sb2O3.

L7 ANSWER 10 OF 10 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1965:410860 HCAPLUS

DOCUMENT NUMBER: 63:10860

ORIGINAL REFERENCE NO.: 63:1949g-h,1950a-b

TITLE: Flame-retardant polyolefin compositions

PATENT ASSIGNEE(S): Hercules Powder Co.

SOURCE: 8 pp.
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|----------|-----------------|--------------|
| ----- | ---- | ----- | ----- | ----- |
| GB 991159 | | 19650505 | GB 1964-2473 | 19640120 <-- |
| US 3216960 | | 19651109 | US 1963-253296 | 19630123 <-- |

PRIORITY APPLN. INFO.: US 19630123

AB For use in shipboard cables, television leadin wires, transformer cases, and other applications requiring flame resistance in addition to the phys. and mech. properties of polyethylene (I) and polypropylene (II), a composition contains ≥50% of a solid I or II, 3-20% of a halogenated organic derivative (e.g. chlorinated paraffin wax, **tetrabromophthalic** anhydride, or chlorendic anhydride) containing 50-80% halogen, 3-15% of a compound of a Group VA element (e.g. Bi2O3, As2S3, and especially Sb2O3), and 1-15% of an organic pyrophosphate having the formula $[HO(CH(Me)CH_2O)_nP(=O)(OR)]_2O$ (III), in which R is an alkyl, aryl, haloalkyl, or haloaryl group and n = 1-3; the combined amts. of the halogenated derivative and the Group VA compound are ≥8% of the total composition. Thus, a blend of powdered I 75, chlorinated paraffin (.apprx.70% Cl) 14, Sb2O3 7, and III (in which R is Bu and n = 2) 4 parts was molded and compared in flame resistance and strength with a control sample not containing III and an unmodified sample of I. The samples were classified as nonburning, self-extinguishing, and burning, resp. and had yield strengths of 3490, 3400, and 3520 psi., resp. Comparable results were obtained when II was used and (or) when R was Ph and n was 2. The addition of III permits a reduction of the concns. of halogen-containing compds. and metal derivs. with improved flame retardancy and no major decrease in phys. and mech. properties.

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Freeform Search

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Search History

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| <u>L23</u> 5329054.pn. | 1 | <u>L23</u> |
| <i>DB=USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=ADJ</i> | | |
| <u>L22</u> 3465030.pn. | 3 | <u>L22</u> |
| <u>L21</u> 14 and (diester).ti. | 8 | <u>L21</u> |
| <u>L20</u> 14 and (ester or diester).ti. | 135 | <u>L20</u> |
| <u>L19</u> 14 and (ester or diester) | 1704 | <u>L19</u> |
| <u>L18</u> bromophthalic diester.ti. | 0 | <u>L18</u> |
| <u>L17</u> bromophthalic ester.ti. | 0 | <u>L17</u> |
| <u>L16</u> tetrabromophthalic ester.ti. | 0 | <u>L16</u> |
| <u>L15</u> tetrabromophthalic diester.ti. | 2 | <u>L15</u> |
| <u>L14</u> bromobenzoate diester.ti. | 0 | <u>L14</u> |
| <u>L13</u> tetrabromobenzoate diester.ti. | 0 | <u>L13</u> |
| <u>L12</u> tetrabromobenzoate ester.ti. | 2 | <u>L12</u> |
| <u>L11</u> tetrahalophthalic ester.ti. | 0 | <u>L11</u> |

| | | | |
|------------|---|------|------------|
| <u>L10</u> | tetrabromophthalic ester.ti. | 0 | <u>L10</u> |
| <u>L9</u> | tetrabromophthalic diester.ti. | 2 | <u>L9</u> |
| | <i>DB=USPT,PGPB; PLUR=YES; OP=ADJ</i> | | |
| | ('2780643' '2805246' '2862958' '3293282' '4105710' '4227010' '4277379' | | |
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| | '4754053' '4912158' '5036121' '5049697' '5114786' '5208366')![pn] | | |
| | <i>DB=USPT; PLUR=YES; OP=ADJ</i> | | |
| <u>L7</u> | 5728323.pn. | 1 | <u>L7</u> |
| | <i>DB=USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=ADJ</i> | | |
| <u>L6</u> | tetrabromophthalic diester | 8 | <u>L6</u> |
| <u>L5</u> | tetrabromophthalic ester | 4 | <u>L5</u> |
| <u>L4</u> | tetrabromophthalic | 2266 | <u>L4</u> |
| <u>L3</u> | 5728760 | 6 | <u>L3</u> |
| <u>L2</u> | L1 and tetrabromophthalic | 2 | <u>L2</u> |
| <u>L1</u> | brominated benzoate | 7 | <u>L1</u> |

END OF SEARCH HISTORY

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Search Results - Record(s) 1 through 8 of 8 returned.

☐ 1. Document ID: US 5332859 A

Using default format because multiple data bases are involved.

L21: Entry 1 of 8

File: USPT

Jul 26, 1994

US-PAT-NO: 5332859

DOCUMENT-IDENTIFIER: US 5332859 A

**** See image for Certificate of Correction ****TITLE: Process for producing tetrabromophthalic diesters

DATE-ISSUED: July 26, 1994

INVENTOR-INFORMATION:

| NAME | CITY | STATE | ZIP CODE | COUNTRY |
|---------------|----------------|-------|----------|---------|
| Tarbit, Brian | Northumberland | | | GB3 |

US-CL-CURRENT: 560/83; 560/79, 560/91, 560/93, 560/98

| | | | | | | | | | | | | |
|------|-------|----------|-------|--------|----------------|------|-----------|-----------|-------------|--------|------|----------|
| Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. De |
|------|-------|----------|-------|--------|----------------|------|-----------|-----------|-------------|--------|------|----------|

☐ 2. Document ID: US 4128526 A

L21: Entry 2 of 8

File: USPT

Dec 5, 1978

US-PAT-NO: 4128526

DOCUMENT-IDENTIFIER: US 4128526 A

**** See image for Certificate of Correction ****TITLE: Copolyesters of poly(alkylene glycol aromatic acid esters) and diesters comprising aromatic diols

| | | | | | | | | | | | | |
|------|-------|----------|-------|--------|----------------|------|-----------|-----------|-------------|--------|------|----------|
| Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. De |
|------|-------|----------|-------|--------|----------------|------|-----------|-----------|-------------|--------|------|----------|

☐ 3. Document ID: US 3989653 A

L21: Entry 3 of 8

File: USPT

Nov 2, 1976

US-PAT-NO: 3989653

DOCUMENT-IDENTIFIER: US 3989653 A

**** See image for Certificate of Correction ****

TITLE: Diesters of tetrabromophthalic anhydride

| Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D |
|------|-------|----------|-------|--------|----------------|------|-----------|-----------|-------------|--------|------|--------|
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☐ 4. Document ID: US 3929866 A

L21: Entry 4 of 8

File: USPT

Dec 30, 1975

US-PAT-NO: 3929866

DOCUMENT-IDENTIFIER: US 3929866 A

TITLE: Diesters of tetrabromophthalic anhydride

| Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D |
|------|-------|----------|-------|--------|----------------|------|-----------|-----------|-------------|--------|------|--------|
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☐ 5. Document ID: US 20050045858 A1, WO 2005023927 A1

L21: Entry 5 of 8

File: DWPI

Mar 3, 2005

DERWENT-ACC-NO: 2005-221237

DERWENT-WEEK: 200523

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TITLE: Production of flame retardant formulation having bromine-containing polyol (s), comprises heating mixture of tetrabromophthalic anhydride, aliphatic polyol (s), and liquid straight chain diester(s) of straight-chain alkane dicarboxylic acid

| Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D |
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☐ 6. Document ID: US 20050045857 A1

L21: Entry 6 of 8

File: DWPI

Mar 3, 2005

DERWENT-ACC-NO: 2005-202031

DERWENT-WEEK: 200523

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TITLE: Flame retardant formulation for forming polymer composition, comprises aliphatic diester(s) of alkane dicarboxylic acid and bromine-containing polyol flame retardant(s) from tetrabromophthalic anhydride, aliphatic polyol, and epoxide

| Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D |
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|------|-------|----------|-------|--------|----------------|------|-----------|-----------|-------------|--------|------|--------|

☐ 7. Document ID: NL 7404877 A, DE 2414841 A, FR 2229680 A, JP 50014645 A, US 3929866 A, GB 1443268 A, US 3989653 A, CA 1028346 A, DE 2414841 B, NL 179129 B

L21: Entry 7 of 8

File: DWPI

Nov 20, 1974

DERWENT-ACC-NO: 1974-85329V
DERWENT-WEEK: 200394
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TITLE: Tetrabromophthalic diesters of polyhydroxy alcohols - for preparation of flame resistant, self extinguishing polyurethane foams

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| Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. De |
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☐ 8. Document ID: US 3493535 A

L21: Entry 8 of 8

File: USOC

Feb 3, 1970

US-PAT-NO: 3493535
DOCUMENT-IDENTIFIER: US 3493535 A

TITLE: POLYETHYLENE MALEATE DIESTER GRAFT COPOLYMERS CONTAINING CERTAIN FILLER MATERIAL

DATE-ISSUED: February 3, 1970

INVENTOR-NAME: ZEITLIN ROBERT J

US-CL-CURRENT: 524/94CIPG20060101AC08KC08K3; 524/112, 524/225, 524/307, 524/411, 524/559

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| Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw. De |
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